

050064

JPRS-UCR-85-017

2 December 1985

DTIC QUALITY INSPECTED 4

USSR Report

CONSTRUCTION AND RELATED INDUSTRIES

DISTRIBUTION STATEMENT A
Approved for public release
Distribution Unlimited

19980318 132

FBIS

FOREIGN BROADCAST INFORMATION SERVICE

REPRODUCED BY
NATIONAL TECHNICAL
INFORMATION SERVICE
U.S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA. 22161

8
45
A03

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service (NTIS), Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semimonthly by the NTIS, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

Soviet books and journal articles displaying a copyright notice are reproduced and sold by NTIS with permission of the copyright agency of the Soviet Union. Permission for further reproduction must be obtained from copyright owner.

2 December 1985

USSR REPORT

CONSTRUCTION AND RELATED INDUSTRIES

CONTENTS

CONSTRUCTION PLANNING AND ECONOMICS

Council of Ministers Decree on Construction Materials Production
(N. Tikhonov, M. Smirtyukov; SOBRANIYE POSTANOVLENIY
PRAVITELSTVA SOYUZA SOVETSKIKH SOTSIALISTICHESKIKH
RESPUBLIK, No 19, 1985) 1

Inter-Branch Experiment Launched To Conserve Material Resources
(S. E. Skopovskiy, Yu. Ya. Lipshes; EKONOMIKA
STROITELSTVA, No 6, Jun 85) 4

INDUSTRIAL CONSTRUCTION

Capital Investment in Light Industries Yield Mixed Results
(A. Korzhov; NARODNOYE KHOZYAYSTVO KAZAKHSTANA,
No 8, Aug 85) 13

HOUSING CONSTRUCTION

New 2-Year Planning Cycle Adopted for Housing Construction
(EKONOMICHESKAYA GAZETA, No 25, Jun 85) 21

Efforts Under Way to Lower Cost of Individual Housing
(V. Voronyuk; SELSKAYA GAZETA, 28 Mar 85) 24

Ministries Tasked With Completion, Repair of Housing Projects
(EKONOMICHESKAYA GAZETA, No 16, Apr 85) 26

CONSTRUCTION MACHINERY AND EQUIPMENT

Modernization of Cement Production Technology Viewed
(V. V. Smirnov, Ya. Ye. Gelfand; TSEMENT, No 3, Mar 85) . 31

CONSTRUCTION METHODS AND MATERIALS

Brick Shortage Linked to Raw Material, Transport Problems (V. Badayev; EKONOMIKA I ZHIZN, No 7, Jul 85)	34
Retail Outlets for Construction Materials (KOMMUNIST, 27 Mar 85)	37
Innovative Construction Methods Applied in Uzbekistan (B. Bezrukov; PRAVDA VOSTOKA, 8 Aug 85)	39
Briefs	
Dry-Method Cement Production	41
Porous Gypsum Replaces Brick	41
Concrete Plates as Foundations	41

CONSTRUCTION PLANNING AND ECONOMICS

COUNCIL OF MINISTERS DECREE ON CONSTRUCTION MATERIALS PRODUCTION

Moscow SOBRANIYE POSTANOVLENIY PRAVITELSTVA SOYUZA SOVETSKIKH SOTSIALISTICHESKIKH RESPUBLIK in Russian No 19, 1985 pp 331-333

[USSR Council of Ministers resolution No 570, issued 20 Jun 85 at the Kremlin, Moscow by N. Tikhonov, chairman of the USSR Council of Ministers, and M. Smirtyukov, business manager of the USSR Council of Ministers: "Further Increasing the Production of Construction Materials, Products and Structures for Sale to the Public"]

[Text] With the aim of more completely satisfying the demands of the population for construction materials, products and structures, the USSR Council of Ministers resolves:

1. In the 12th Five-Year Plan to provide the USSR ministries and authorities that carry out construction and the union republic councils of ministers with a significant increase in the production, by enterprises and organizations under their jurisdiction, for sale to the public of precast concrete and concrete products, concrete and solution, asphalt concrete, porous aggregates, non-ore building materials, particle board and products made from it, selections of wood structural elements (beams, floorboards, lumber and others), window and door units, heat and sound insulating products, building structures and elements, gypsum products and other construction materials, products and structures. To take immediate measures for the unconditional fulfillment of 1985 quotas for the production, for sale to the public, of garden-houses, local building materials, and concrete and other types of materials.

For USSR Gosplan to stipulate, in the annual plans stated by USSR ministries and authorities and by the councils of ministers of the union republics, quotas for the production of building materials, products and structures for sale to the public.

To adopt the suggestion of USSR Gosplan for USSR construction ministries to set up, for 1986 and 1990, quotas for the production of building materials, products and structures for sale to the public in volumes that correspond to the enclosure.*

* The enclosure is not cited.

To ensure USSR ministries and authorities and the councils of ministers of union republics carry through to enterprises and organizations under their jurisdiction the quotas for production of the stated products in a cost expression.

To define for enterprises and organizations, in annual plans that correspond to the orders of trade organizations, a range and quantity of construction materials, products and designs produced for sale to the public, proceeding from the quotas stated by them for the production of these products in a cost expression.

To establish that construction materials, products and designs supplied for sale to the public belong to the category of goods for cultural-welfare and economic purposes.

2. To stipulate for USSR Gosplan and USSR Gosstnab, beginning in 1986, in annual plans the apportionment to USSR ministries and authorities and to the councils of ministers of union republics of material-technical resources in volumes that ensure the fulfillment of quotas for the production for sale to the public of building materials, products and structures.

3. For the USSR Ministry of Trade, Tsentsosyuz, USSR Gosstnab and the councils of ministers of the union republics, together with USSR construction ministries and other interested organizations, in a three-month period to develop and confirm a position on the conditions of sale and delivery to the public of building materials, products and structures, having stipulated in the position that:

the delivery of solution and concrete, loose materials, large-scale products and designs be made directly from the manufacturing plants, smaller-scale products and structures be delivered to the bases and warehouses of trade and public welfare service enterprises. The loading of building materials, products and structures onto trucks at the manufacturing enterprises should be done by these enterprises. To define in the position the order of unloading the stated materials, products and structures;

payment for the cost of acquired goods, loading, transport and unloading be made by the buyer through stores that trade in lumber and building materials as well as through other organizations determined by the USSR Ministry of Trade and Tsentsosyuz;

delivery of building materials, products and structures take place on a day determined on payment for the goods.

4. For the Ispolkom of local councils of people's deputies, proceeding from local conditions, to determine the order of supply of trade organizations (located in the territory of these councils), according to their claims, with trucks for delivering building materials, products and structures to buyers from the bases and warehouses of trade enterprises just as from manufacturing enterprises.

To enlist general-use transport for the delivery of the stated products as well as the transport of kolkhozes (with their agreement), sovkhoses, enterprises and organizations.

5. For USSR ministries and authorities and councils of ministers of the union republics, at whose enterprises are produced building materials, products and structures for sale to the public and not having confirmed retail prices, to work out and present to the USSR State Committee on Prices projected retail prices for confirmation in the established order.

6. To entrust the USSR Central Statistical Directorate with establishing, beginning in 1985 according to an agreement with USSR Gosplan, accounts on the sales of construction materials, products and structures to the public.

7. For construction ministries and authorities, the ispolkoms of local councils of people's deputies and trade organizations to guarantee control over the fulfillment of quotas for the production of building materials, products and structures for sale to the public and over their delivery to the buyers.

12461

CSO: 1821/178

CONSTRUCTION PLANNING AND ECONOMICS

UDC 69.003:658.2

INTER-BRANCH EXPERIMENT LAUNCHED TO CONSERVE MATERIAL RESOURCES

Moscow EKONOMIKA STROITELSTVA in Russian No 6, Jun 85 pp 66-70

Article by S.E. Skopovskiy, deputy chief of a subdivision of USSR Gosstroy and Yu.Ya. Lipshes, chief economist for the Belorussian branch of the All-Union Scientific Research and Planning Institute for Labor and Construction of USSR Gosstroy: "Belorussian Experiment: Experience, Problems and Prospects"/

Text The economic mechanism and the entire system of administration must be improved in a persistent manner if a decisive change for the better is to be realized in converting the national economy over to the path of intensive development. In traveling along this path and in selecting the best solutions, importance is attached to employing the basic principles of socialist management in a creative manner -- such was the instruction handed down during the March (1985) Plenum of the CPSU Central Committee.

These conditions are of decisive importance for capital construction. In view of the scale of the construction program here, considerable importance is attached to raising the technical level of capital construction and labor productivity and also to making full use of the available reserves.

The Belorussian builders have recommended the carrying out of an experiment for the purpose of working out a new system of economic relationships between the principal participants in construction -- the contractor, planner, client, enterprises of the construction industry and construction materials enterprises -- for the purpose of reducing the material and labor expenditures and lowering the estimated cost of construction.

In conformity with the conditions of the experiment, during the early stage of planning, an estimated cost for the construction-installation work is established which remains stable and unchanging right up until the end of the construction. This indicator is used for the accounts of the clients with the contractors and also for planning and evaluating the work of the construction and planning organizations.

In order to determine the estimated cost of construction installation work at projects involving series construction, use is made of a new type of consolidated estimate norms -- so-called stable prices. They are a type of analog for the wholesale prices for industrial products. Such prices must take into account the consumption properties of the construction projects and the average socially necessary expenditures required for their erection.

Progressive technical solutions were adopted during the planning process, upon the recommendations of contractors, planners and other participants in construction, which promote a reduction in the consumption of resources but which do not bring about a reduction in the established cost of the construction-installation work. The savings achieved as a result of carrying out progressive planning solutions, which require fewer expenditures of production resources, is passed on to the contractor and is distributed in conformity with the method employed in carrying out the experiment. Initially, the total amount corresponding to the planned task for lowering the cost of the construction-installation work is excluded. The resources are taken into account when computing the planned profit of the contractual organization, a portion of which is added to the state budget. Of the remaining portion of the total amount saved, another 25 percent is added to the budget and a similar amount is used for covering the expenses of the contractor, expenses associated with the introduction of the achievements of scientific-technical progress (training of personnel in the new technological processes, re-equipping of the working positions and also improving the standard and other plans in accordance with direct agreements between the contractors and the planners). The remaining portion of the savings is used for creating incentive funds for the contractual and planning organizations and for awarding bonuses to other participants in the construction of installations.

The experiment is being carried out in the Belorussian SSR in conformity with a decision handed down on 15 July 1982 by the inter-departmental committee of USSR Gosplan for matters concerned with the use of new methods for planning and economic stimulation. Sixty planning-research organizations, 80 construction-installation organizations, many ministries and department-clients and a number of enterprises of the construction industry are participating in the experiment.

The initial results of the experiment reveal that economic levers have been found which make it possible to avoid exceeding the approved estimated cost for construction-installation work during the construction process. Moreover, these levers promote greater validity and effectiveness in the planning of capital investments. In addition, they serve to reduce the expenditures of labor and material resources in capital construction. And the reserves here, as borne out by the experiment, are considerable. They involve first of all the use of progressive planning solutions. A new system of economic stimuli serves the interests of the principal participants in the construction process with regard to the use of these reserves. A different style of relationships between the planners, contractors and clients is promoting the accelerated introduction of the achievements of scientific-technical progress.

Since stable estimated prices for construction output were not developed during the first stage, other methods for determining the fixed cost for construction-installation work -- price lists, estimates for the standard and repeatedly used economic individual plans and others -- were employed during the erection of many installations of a housing, cultural-domestic or production nature.

At the present time, approximately 70 stable estimated prices have been developed and approved for installations of mainly a civil housing nature. Approximately 100 more stable prices for various types of buildings and installations are being prepared and approved this year.

The use of a stable cost for construction output, combined with the new system for economic stimulation, is promoting greater use of scientific-technical achievements by contractors and planners and a reduction in the expenditures of material and labor resources. Moreover, the operational qualities of the buildings and installations being erected are not deteriorating. The plans developed under the conditions of the experiment are being carried out on a more frequent basis using unique engineering solutions -- the result of scientific studies and creative works by the planners and builders themselves, the use of inventions and also foreign and domestic experience. Improvements in the construction portion of the plans, based upon a change in the technological processes of the planned production efforts, are promoting a reduction in the resource-intensiveness of construction. For example, in carrying out the plan for a water purification station for the Gomselmash Plant, the Minsk branch of the Soyuzvodokanalproyekt Institute employed a non-drainage system for the washing of contact clarifiers, with use being made of coagulator-settling tanks of a new design. This made it possible to reduce the volume of the purified water and accordingly the construction volume for the installations of the station. In the process, the total amount of savings amounted to 128,600 rubles. The consumption of metal decreased by 73 tons and that for cement -- by 280 tons.

The use of progressive space-planning and construction solutions is directed towards achieving the same goal. Thus the Grodno branch of GIAP /State Scientific Research and Planning Institute of the Nitrogen Industry and Products of Organic Synthesis/, in the plan for a complex for carbamide production with a capability of 31,600 tons, within the structure of the Azot Production Association and by agreement with the Scientific Research Institute of Bases and Foundations of USSR Gosstroy, instead of a solid round slab on pilings beneath a granulation tower, planned a foundation in the form of a strong ring and involving a change in the computed projection diagram for the pressure under its bottom (usually employed in conformity with the planning norms for tall installations). By agreement with the Moscow Spetszhelezhobestroy Trust, the superstructure of this framework-panel type tower is replaced by a covering made out of monolithic reinforced concrete. As a result of the use of progressive design solutions, the computed savings exceeded 250,000 rubles.

A change in the organization of construction promoted a reduction in the resource intensiveness. An example of this would be the streamlining of the plan for an overbridge (railroad) at the Gomel-Sortirovochnaya Station, carried out by the Minsk branch of the Promtransniiprojekt Institute, in response to a recommendation by the contractor -- Bridge Detachment No. 88 of Trust No. 5 of USSR Mintranstroy. In accordance with the new design solution, the overbridge was built in two stages and with no change in the organization of train movements. In the process, the length of the routes was reduced by 25 kilometers, the requirement for metal was reduced by 459 tons, that for timber -- by 859 cubic meters and for gravel -- by 3,400 cubic meters and 16 badly needed switches were made available. The operating time of the construction mechanisms was reduced by 574 machine-shifts and savings of 32 tons of diesel fuel and 21,000 kilowatt hours of electric power were realized.

The improvements in the planning solutions, as a result of creative collaboration between the planners and other participants in the investment process, are

making it possible for the contractual organizations to realize considerable economies in the use of production resources. For example, the Minskpromstroy imeni 60-Letiya Velikogo Oktyabrya Production Construction-Installation Association of the BSSR Minpromstroy /Ministry of Industrial Construction/, together with Belpromproyekt, streamlined the building plan for the state Bearing Plant No. 11 in Minsk. As a result of a more rational placement for the technological equipment, it became possible to decrease by almost twofold the computed workloads on the floor. This made it possible to lessen the weight of the building and to use the standard structures for multiple-level buildings in accordance with the Series II-20/70 plan instead of the basement structures called for in the Series IS-01-19 plan. Thus a requirement existed for installing 650 fewer reinforced concrete elements. In addition, owing to the transfer of a departmental gas generator unit from a ventilation insert to the thermal department the height of the first floor was decreased by 1.2 meters and the facility's space by 2,100 cubic meters, with a corresponding reduction in the expenditure of resources. Instead of the traditional P-shaped lights, the plans called for zenithal types, with a change in the covering and with the distance pieces and girder couplings being eliminated. The use of progressive technical solutions in the installations erected made it possible to reduce the consumption of metal by 874 tons, cement by 1,004 tons and to lower labor expenditures by 9,021 man-hours.

Under the experiment's conditions, fine results were achieved by the collective of the Belenergostroy Trust of USSR Minenergo /Ministry of Power and Electrification/. In response to its recommendation, an efficient plan variant was developed for Cooling Tower No. 2 of the Minsk TeTs-4 and other installations. Moreover, the plans called for the use of a single-stage sprinkler instead of a two-stage one, with a reduction in its height and also in the number of sprinkler units installed by 4,300. New types of supports were used on the precast pyramidal pilings. As a result, the requirement for metal was reduced by 1,006 tons and labor expenditures by 8,531 man-days.

A large contribution towards realizing savings in the use of material and labor resources was made by the planning-research organizations -- participants in the Belorussian experiment -- and by the collectives of Belpromproyekt, Belgosproyekt and the Minsk branches of the Soyuzvodokanalproyekt and Promtransniiprojekt institutes of USSR Gosstroy and the Grodno Branch of the State Institute of the Nitrogen Industry.

Thus the Minsk Branch of the All-Union Promtransniiprojekt Planning and Scientific-Research Institute of Industrial Transport of USSR Gosstroy called for standard plans for the overbridges at Zhlobin and at Gomel-Sortirovochnaya Station, having foreseen the use in them of non-grating supports on pilings and ribbed spans and the construction of sidewalks with a back plate. Effective plans for organizing construction were prepared for the erection of the installations. In the process, the consumption of metal decreased by 1,720 tons compared to the figure called for in the plan, cement -- by 700 tons and labor expenditures fell by 17,190 man-days.

The Minsk branch of the state Order of the Red Banner for Labor Soyuzvodokanalproyekt Planning Institute of USSR Gosstroy developed an efficient plan variant for an iron-removal station for the water intake of the Belorussian Metallurgical

Plant at Zhlobin, involving the use of a new technology for purifying waste water -- physical-chemical instead of mechanical-biological. The plans call for the use of filters with a floating foam-polystyrene charge instead of purification on contact clarifiers. A number of progressive technical solutions were used at other installations. As a result, metal consumption decreased by 360 tons, cement by 1,160 tons and labor expenditures fell by 15,370 man-days.

Belgosproyekt of USSR Gosstroy developed economical plans for 18 projects of a civil housing nature, with columns for the entire height of multiple-level buildings, with a change in the framework and reinforcement and with new structures for the smoke removal valve, which has a magnetic latch that simplifies and raises the reliability of the automatic ventilation systems and so forth. This made it possible to realize savings on the order of 400 tons of metal and 1,290 tons of cement and to lower labor expenditures by 7,290 man-days.

Throughout the republic, in conformity with the conditions of the experiment, planning was completed for more than 300 projects. The savings realized in this regard, as a result of the introduction of scientific-technical achievements and leading experience, exceeded 13 million rubles. This amounted to 5 percent of the estimated cost of the construction-installation work. Compared to the amounts called for earlier, the consumption of metal decreased by 11,000 tons, cement by 21,000 tons and labor expenditures declined by 290,000 man-days.

By the beginning of 1985, 155 projects had been placed in operation, with the construction having been carried out in keeping with the conditions of the experiment. The cost of the construction-installation work for these projects amounted to 112.5 million rubles. The savings realized as a result of the use of resource-conserving planning solutions reached 4.5 million rubles. Nor did the estimated cost for one of these projects exceed the cost initially established. In conformity with the conditions of the experiment, 389,000 additional rubles were added to the state budget and 431,500 rubles were added to the economic incentive funds of the construction-installation organizations. The total amount of funds transferred over to the planners by the contractors, for use in awarding bonuses to planning organization workers -- participants in the experiment -- increased from 54,800 rubles in 1983 to 388,600 rubles in 1984 (taking into account the funds used for advance bonuses). Large bonus amounts were transferred over to the Minsk branch of the Promtransniiprojekt Institute (55,200 rubles), Belgiprobiosintes (36,600 rubles), the Minsk branch of Soyuzvodokanalproyekt (34,000 rubles), Belgiprodor (25,800 rubles) and to the Leningrad Giprospekgaz (20,400 rubles).

In the contractual organizations, the bonus amount paid out to one worker who participated in improving the planning solutions and in carrying them out amounted to an average of 93 rubles and for a planning organization worker -- 117 rubles.

The Lithuanian builders joined the experiment in 1983. This included six planning-research and 28 construction-installation organizations. In 1984, planning work was completed on 84 projects throughout the republic. The savings realized in connection with these projects amounted to 1.6 million

rubles. This was 3.7 percent of the estimated cost for the construction-installation work. In the process, metal consumption was reduced by 900 tons and cement expenditures -- by 3,800 tons. The labor expenditures decreased by 36,400 man-days. Nine projects were placed in operation in 1984, the construction of which was called for in the experiment. No growth took place in this regard in the estimated cost, although it increased by more than 5 million rubles throughout the republic as a whole last year. In the process, a savings of 74,000 rubles was realized. The average bonus amount for a worker who participated in improving the planning solutions and in carrying them out was 84 rubles in contractual organizations and 56 rubles in planning organizations.

Commencing in 1985, the Primorskiy, Vyazemskiy, Priokskiy, Omskiy, Engelsskiy and Yaroslavskiy rural housing construction combines of the RSFSR Minselstroy Ministry of Rural Construction began carrying out the experience while taking into account the experience of the Belorussian and Lithuanian SSR's.

Here the conditions of the experiment changed somewhat, with the funds saved as a result of the use of improved planning solutions being distributed in another manner. In particular, a considerable increase took place in the proportion of funds allocated for the economic stimulation of clients and planning organizations, using funds made available for compensating for the raised production expenses occasioned by the introduction of scientific and engineering achievements and also leading experience. In addition, payments into the state budget were also used for this purpose.

Based upon the above, it can be stated that under the conditions of the experiments appreciable economic stimuli were placed in operation for lowering the resource-intensiveness of construction. Moreover, the savings realized from this cannot serve as a source for covering losses caused by poor production organization, since the savings was added to a special fund by the contractor during the course of construction and relates to the production cost for the construction-installation work. Thus the savings realized from the use of progressive planning solutions is held aloof from the profit formation process.

The institutes of Stroybank All-Union Bank for the Financing of Capital Investments exercise systematic control over the methodological conditions for the experiment, the correct reflection in the reporting of organizations and enterprises of the savings realized from the introduction of scientific-technical achievements into the plans and at construction projects and over the correct formation, distribution and use of the material incentive funds, while taking into account the fulfillment of the plans for placing production capabilities, construction projects and balance profits in operation.

Accumulated experience has shown that further progress must be achieved and improvements realized in the methodological principles of the new economic mechanism. Towards this end, the Inter-departmental Committee of USSR Gosplan for matters concerned with the use of the new methods for planning and economic stimulation introduced a number of refinements and additions in late 1984 into the methodological conditions for carrying out the experiment. First of all, they concerned determining the cost of construction-installation work at large industrial construction projects and installations of individual planning. In the case of two-stage plan development, they were authorized to compute the

stable cost for construction-installation work based upon summary estimated computations of the construction costs which were approved in the established manner and coordinated with the contractors.

The circle of participants in the experiment was expanded. It now includes scientific-research and planning and design technological organizations and they introduce recommendations which are used in the economic plans or they provide the contractors with specific assistance in introducing the achievements of scientific-technical progress.

An efficient system has also been established for use by the planners and contractors of a portion of the financial, material and labor resources obtained from the carrying out of rational planning solutions, with these resources being used for developing their own production base and for the construction of dwellings and other installations of a socio-cultural nature.

The experiment is continuing. Construction work has still not been completed on some large projects, especially those of a production nature having a normative duration for the complete cycle of planning and construction of not less than 3-4 years. A study of the results realized during the erection of such installations in conformity with the conditions of the experiment obviously places on the agenda additional questions of a methodological nature, the solutions for which will promote the creation of an efficient system of economic relationships among the participants in construction.

At the present time, a study should ideally be undertaken of the possibility of determining the stable (contractual) cost of construction output in conformity with the technical-economic justifications for the construction of large-scale and complicated enterprises and installations.

For the extensive use by contractual organizations of the rights extended to them in connection with building installations of a production and non-production nature, using the financial, labor and material resources saved as a result of utilizing the achievements of scientific-technical progress as called for in the plans, a need will exist for new methodological works, since construction carried out on such a basis is rather complicated and is unprecedented. In order to ensure efficient control over them, the construction ministries and contractual organizations must take into consideration the substantial differences in the formation and use of the reserves for each of the mentioned types of resources, created during the carrying out of the experiment.

Thus the first difference has to do with the structural levels on which the reserves are formed and upon which the peculiarities of the functions of the construction ministries (departments) in administering the use of the resources are dependent. Exactly what does this mean?

The entire reserve of material resources is concentrated in a construction ministry (department). It receives appropriate funds in accordance with the expenditure norms for materials for 1 million rubles worth of construction-installation work (according to their stable cost). The specific construction projects are supported in conformity with the requirement determined in

accordance with the economic variants of the plans. Hence, the task of the central staff is that of supplying the internal construction projects of contractual organizations, being erected in conformity with the conditions of the experiment, with the most important material resources from their reserve.

Savings in the use of labor resources (number of workers and their wage fund) are realized directly in the contractual organizations -- as the projects are erected. Based upon suitable accounting for these reserves, the ministry (department) may redistribute them, transferring work limits to those organizations which are carrying out their own construction in keeping with the conditions of the experiment and partially reducing the limits for those organizations which are participating in the experiment but which are not carrying out such construction during the given year.

The funds for capital investments in internal construction, carried out in conformity with the conditions of the experiment, are also formed directly in the contractual organizations. They constitute a portion of the savings realized from the use of scientific-technical achievements in the plans. The ministry (department) must direct the use of these resources, sanctioning the erection of specific projects in accordance with the recommendations of the contractual organizations.

Since the amount of money which many collectives will have at their disposal will be relatively small, importance is attached to ensuring that the ministry's central staff organizes joint financing by the contractual organizations, on a proportional basis, for the construction of installations of collective use, of both a production and non-production nature.

The second substantial difference in the resources is associated with the time of their formation and use. The financial resources added to a special fund, the formation of which was called for by the methodological statutes for carrying out the experiment, are not withdrawn from the contractual organizations at the end of the accounting year and can accumulate to the amounts needed for the construction (including by way of share participation) of specific projects.

The reserve of labor and material resources exists only within the limits established for the accounting year. This complicates to an extreme degree control over its use, especially at the ministerial level (department). Moreover, the reserve available for the current year must be balanced with the volumes of internal construction carried out by contractual organizations in conformity with the conditions of the experiment, using for the most part money accumulated in past years.

The efficient regulation of the problems discussed will make it possible to create a close relationship between the degree of activity manifested by the contractual organizations in introducing scientific and engineering achievements and the volumes of their internal construction, carried out using the resources made available during the process.

The successful introduction of the new economic mechanism for stimulating a reduction in the resource-intensiveness of construction is conditioned to a considerable degree by an efficient selection of the construction projects. A mandatory condition will be that of agreement on the part of all of the leading

participants in construction: planner, contractor, client, concerning the inclusion of a project erected in the republic in the number of those which must be erected in conformity with the conditions of the experiment.

The second condition is the possibility of determining for a given project the invariable cost of the construction-installation work, based upon stable prices or with the aid of another method for price formation, obtained from among those set forth in the methodological conditions for carrying out the experiment.

The third condition is conformity of the technical solutions to the principles of the experiment, the use of which in a plan makes it possible to realize a savings, which in turn constitutes the basis for stimulating the participants in construction. The organizers of the Belorussian experiment are devoting a great amount of effort in the interest of efficiently regulating this condition and preventing the awarding of incentives to workers who did not make a creative contribution to the work at hand. Towards this end, a special instruction has been developed and approved calling for an expert examination of the plans for the construction of installations included in the experiment (it bears mentioning that such expert examination is being carried out in an especially thorough manner). Today we are still encountering many unresolved problems in this area. For example, there is the question concerning the use in plans of technical solutions that are based upon rationalization proposals adopted by a contractor or client. Today such solutions are qualified as not falling within the conditions of the experiment. It is our opinion that such a solution for the problem is without question, since the introduction of the new economic mechanism proposed by the Belorussian builders is directed towards accelerating technical progress and, on this basis, raising the efficiency of capital construction and the rationalization proposals also serve this purpose.

The experience of the construction-installation, planning and planning-research organizations -- all participants in the economic experiment carried out in the Belorussian and Lithuanian SSR's -- convincingly testifies to the great opportunities which are available for lowering materials-intensiveness, labor-intensiveness and the cost of construction, as set forth in the decree of the USSR Council of Ministers entitled "On Further Improvements in Planning and Estimates Work and Raising the Role Played by Expert Examination and Author's Supervision in Construction."

COPYRIGHT: Stroyizdat, 1985

7026

CSO: 1821/182

INDUSTRIAL CONSTRUCTION

CAPITAL INVESTMENT IN LIGHT INDUSTRIES YIELD MIXED RESULTS

Alma-Ata NARODNOYE KHOZYAYSTVO KAZAKHSTANA in Russian No 8, Aug 85 pp 32-35

[Article by A. Korzhov, economist, under the rubric "Scientific and Technical Progress and Advanced Experience": "Technical Re-equipping--Today's Pressing Problem"]

[Text] "Revolutionary changes are needed--a changeover to radically new manufacturing systems, and to state-of-the-art equipment which provides utmost efficiency. It is essentially a question of re-equipping every sector in the national economy, using the up-to-date achievements of science and technology."

--M. S. Gorbachev

In recent years, the reconstruction and technical re-equipping of our enterprises have begun to play an ever-greater role in the development of industrial production. For a number of these sectors, such as light industry, the food industry and the meat and dairy industry, the share of assets allocated for these purposes already make up from 40 to 60 percent of all their capital investments. This tendency is justified by the fact that it is more economically advantageous to enlarge the increase the gains in output production by means of these factors than by building new enterprises. And it is not only a matter of the cost indicators. The time factor also plays an essential role. Here are the facts.

In the course of an inspection conducted by USSR Stroybank [Bank for Financing Capital Investments] of 3,500 construction projects and enterprises, it was ascertained that if the projected time period for new construction projects to pay for themselves is 4.8 years, then the period for enterprises being renovated comes to about four years, and the period required for technical re-equipping is 3.5 years. It appears that the figures speak for themselves.

The need for us to choose the option of technical re-equipping our sectors has been determined as well by the accelerated rates at which equipment becomes obsolete. If we bear in mind that at present a full third of all the production equipment used in light industry and the food, and meat and dairy industries is physically obsolete as well, then the problem of the technical renovation of enterprises with new highly-productive equipment in the shortest times possible becomes extremely pressing.

This should not be thought of as a call to careless haste. The speeds at which such re-equipping is carried out should be combined with a reasoned execution of the affair. This means that each enterprise and sector needs to have a thoroughly thought out plan for technical re-equipping.

These plans, undergirded by technical and economic calculations, should provide steps for the creation of new, and improved uses for existing production capacities, for increased production of high-quality of goods produced while at the same time increasing labor productivity and reducing labor intensiveness, economizing on material and fuel-energy resources, reducing the prime cost of the goods produced, and improving other technical-economic operational indicators aimed at bringing about a rapid intensification of production.

This is precisely the manner by which the problem of technical re-equipment was approached at the Karaganda and Kustanay confectioneries, the Ust-Kamenogorsk Oil-Extraction Works imeni Krasin, the Ust-Kamenogorsk Distilling Combine, the Karaganda Distillery and the Leninogorsk Brewery. In those places, the 1985 plans were approved in good time, based on their in-house five-year plans for technical re-equipping, since they had already developed their technical and economic estimates of the measures' effectiveness.

Unfortunately, we have other facts on hand as well. Of 25 major light-industry enterprises which were checked out in Kazakhstan in 1984, 10 (40 percent) of them had no five-year plans for technical reequipping, even though they had received funds for this purpose every year. Of 21 meat and milk industry enterprises, 14 of them, or 67 percent, had no such plans.

In January 1985, inspections were made of 24 food industry enterprises which had been allocated funds this year for technical re-equipping. At 18 of these enterprises (75 percent of those inspected) there were no approved year's plans for technical re-equipping, nor had there been made any calculations confirming the measures' effectiveness. Among these enterprises were the Aktyubinsk Confectionery, the Karaganda, Kustanay and Ust-Kamenogorsk bread associations, the Petropavlovsk, Karaganda and Zyryanovsk breweries and a number of others. Their share of the capital investments allocated for technical re-equipping comes to 55 percent.

This situation necessitates increased attention on the part of the monitoring agencies regarding the effective utilization of capital investments allocated for technical re-equipping, by enterprises which are already working in the planning stage. By way of example, USSR Stroybank institutions finance and extend credit for these purposes only where there exists a plan for technical re-equipping and where calculations have been made regarding the effectiveness of the measures being taken.

A thoroughgoing study of the economic aspects of a plan for technical re-equipping acts as an earnest on the derivation of an actual effect in the future with minimal outlays. For example, according to the results of the examination of light industry enterprises and associations in 1981-1983, with capital outlays for technical re-equipping of R9 million, an increase of R67 million

(8.6 percent) in goods produced was effected, as was a production increase of R18 million (9.6 percent); 644 people were released, and a reduction in the prime cost of produced goods of R338,000, or 0.5 percent, was effected.

At nine meat and milk industry enterprises which received allocations of R7.2 million for technical re-equipping came up with an increase in goods output of R23.7 million, or 4.5 percent, an increase in overall output of R20.7 (6.2 percent) and 152 persons were made available for other work.

A great number of examples of the effective execution of technical re-equipping plans can be given. The Kustanay Confectionery increased the output of produced goods of R14,900 through the use of this factor, and they reduced the prime cost of their output by R39,000 and reduced their worker strength by 13 persons, deriving an overall economic effect of R46,300.

Finding ways to accomplish the tasks stipulated in the plans depend in large part on material and technical support. Unfortunately, the principle of immediately supplying equipment to those enterprises being re-equipped is as yet not observed in all cases. In fact, it was observed in the cases of large-scale light-industry enterprises in 1981 in a total of 75 percent of the time, 89 percent in 1982, 57 percent in 1983 and 90 percent in 1984.

And here is how the picture shapes up in a cross-section of enterprises. For example, in 1984, the Ust-Kamenogorsk Silk Fabrics Combine, with a R948,000 requirement in domestically-produced equipment, was allocated R200,000 in assets (21 percent), the Chimkent Cotton Combine figures were, respectively, R1,331,000 and R653,000 (49 percent), and the Kustanay Worsted Fabric Combine figures were R3,726,000 and R1,735,000 (46 percent) respectively.

Re-equipping cannot be delayed by even a day. Take the enterprises of the Taldy-Kurgan Oblast Milk Association. They were constructed for the most part between 1948 and 1955. It was not until 1984 that 320 units of production equipment were taken out of service by reason of their decrepit state. This equipment had been in operation an average of 12 years. Insufficient funds were allocated for technical re-equipping. In 1984, when R430,000 of domestically-produced equipment was needed, only R230,000 was in fact allocated.

The state of affairs at the Kustanay Oblast's Dzhetysay Meat Combine is no better. Its collective is doing everything possible to produce more output than called for by its rated capacity. Its superannuated equipment is wearing out, but the combine's applications for capital outlays for technical re-equipping of its productive capacities have been satisfied by 60-70 percent in the course of the five-year plan period.

Enterprise administrators and sectorial headquarters personnel are frequently responsible for the sluggish realization of technical re-outfitting.

For example, among the unmounted equipment at the Ural Meat Combine there has been, since 1980, a complete set of bone-adding machinery worth R11,000 and a sterilizer (worth R6,000), which the combine is in no position to install because of shortages of working area.

The fact that the enterprises' equipment needs are not being completely met unavoidably leads to incomplete utilization of the enterprise's growth funds. As a result, a large portion of these assets are being immobilized. As an example, in 1981 only 91 percent of development fund assets for light industry enterprises were realized, and only 89 percent in 1983. The Kustanay Worsted Fabric Combine, which had R294,000 left in its production development fund, with R3,192,000 added to it throughout the year, was able to put a total of R2,678,000, or 76 percent of existing capital accumulations into the business.

It is precisely this non-assimilation of assets which has also engendered the tendency to immobilize a considerable portion of the enterprises' assets, allocated for their development funds in accordance with a decision of upper-level organizations to redistribute them and give them over to those enterprises which have no in-house sources of capital investment financing.

For example, in 1981 at the Chimkent Cotton Combine 85 percent of their production development fund assets were immobilized, with 86 percent immobilized in 1983. Naturally, a case such as this cannot be acknowledged as being normal. A similar "donorship" will hardly encourage the former in a further quest for in-house financing resources (they say that since they haven't requested an agreement, it makes no difference if the funds are immobilized), nor will the second be encouraged to accumulate their own assets (it makes no difference to give the funds to themselves).

Capital investments for the technical re-equipping of enterprises, as is well known, are used based on plans and estimates which have been developed and approved. Only the financing of outlays for acquiring equipment which requires no installation is being carried out in compliance with plans for technical re-equipping in the absence of planning estimates. However, all is not well here. In particular, enterprises are not allocated maximum assets for planning and surveying documentation for the purpose of technical re-equipping. Occasionally this leads to massive outlays.

It needs to be mentioned that the sectors have accumulated a great quantity of planning estimates for new construction. These documents go unused for long periods of time, become obsolete and are occasionally listed, because of their uselessness as "worthless". By way of example, in 1981-1982 planning estimates were developed for a Kazgiprotekhnolegprom [Kazakh State Institute of Light Industry Technical Planning] engineering and laboratory building in Alma-Ata. And so far it hasn't been used. Shouldn't it be listed as "worthless" as well?

It sometimes happens that enterprises, not having sufficient information at their disposal regarding the latest scientific and technical achievements which they could well use in production, nor having planning skills, try to develop their planning estimates using their own personnel. As a rule, the quality of the majority of these estimates does not bear up under critical examination.

By the same token, things ought to be wrapped up as quickly as possible. Questions of technical re-equipping need to be approached sensibly, bearing in mind that the 16th Kazakhstan Communist Party Plenum put special emphasis on the need to increase control so as to eliminate costs in capital construction.

This work is extremely important today, since practice has provided us with a plethora of examples of incompetent administrative decisions reducing the overall economic effect. Actually, in spite of the fact that over 40 percent of the volume of capital investments put into the light, food, and meat and milk sectors is earmarked for technical re-equipping, the outlays used for these purposes do not always produce the requisite yield. The fact is, the steps taken to renovate equipment frequently do nothing to increase productive capacities, do not increase the quantities of goods produced and do not increase labor productivity or reduce the prime cost of the goods produced.

Of 63 of the republic's light industry enterprises examined at the beginning of 1985, which enterprises had been allocated capital outlays totalling R38.5 million for technical re-equipping, increases in their productive capacities were foreseen for only 36 of them. This figure comprises 57 percent of those examined. And the aggregate outlays in this case come to R33.1 million and take in 86 percent of the capital investments. Routine replacement of worn-out equipment at 27 enterprises has been planned, at a cost of R5.4 million.

A similar situation exists at 76 food industry enterprises, where capital outlays for technical re-equipping come to R10.5 million. Here, increases in production capacities were foreseen for only seven of them, comprising 9 percent of those examined.

In the meat and milk industry, out of 43 enterprises, an increase in the capacities of only five (12 percent) was noted. In the absence of the expected increase in production capacities, 1985 saw the allocation of R1,300,000 in capital investments for technical re-equipping forwarded to the Semipalatinsk Worsted Fabric Association, the Karaganda Shoe Factory (R860,000), the Alma-atakhleb [Alma-Ata Bread] Association (R2,010,000), the Chimkent Vegetable Oil and Animal Fat Combine (R500,000), the Semipalatinsk Meat-Canning Plant (R680,000) etc.

There is a legal question: is it worth it to class expenditures which neither increase productive capacities nor improve qualitative indicators or increase the volume of goods produced, under the sub-head "technical re-equipping"? Evidently not. And if it indeed is, then the economic picture will turn out to be something different as well.

The Semipalatinsk Worsted Fabric Association, for example, was allocated a total of R1,980,000 for 1985, which included outlays for technical re-equipping totalling R1,300,000. This comes to 66 percent of the overall investment ceiling. As if this were a high indicator. In reality, the effect derived from re-equipping is almost zero, since two-thirds of the monies are earmarked for routine replacement of physically worn-out equipment with new equipment, but the new equipment has exactly the same productivity. It is obvious that in the process of such replacement, we are neither making a single step forward in the technical sense, but are only patching up the breaches which have formed.

At the present time, capital investment ceilings, characterized by intensive growth factors, are grouped in the capital construction plans by ministries,

associations and enterprises, and are earmarked for "reconstruction and technical re-equipping", i.e., without detailing. And the investment ceilings, intended for routine equipment replacement are frequently included in this very group. In so doing, what is created is something which only resembles growth in the relative significance of the capital outlays intended for technical re-equipping and renovation. As a result, the high plan indicators for intensification of production do not in fact provide the requisite increase in productive capacities or output production, do not increase labor productivity, nor do they increase profits or reduce production costs.

In our opinion, what is needed when plans for capital construction are being drawn up is a clear-cut delimitation in the ceilings for capital investments earmarked for reproduction of the fixed capital of operating enterprises, and they should be planned separately, i.e., for renovation, for technical re-equipping and for the acquisition of equipment which is not part of the construction estimate (and which is to replace that which is worn out).

Outlays directly earmarked for technical re-equipping must without fail be coordinated with their planned economic effect.

However, practice shows that this principle is still frequently disregarded. As an example let us take sewing industry enterprises. In 1985, R3,455,000 was allocated to 19 sewing mills for technical re-equipping, the result of which was to have been an increase in capacity, of R1 million, of the normative cost of processing their products. In other words, the plan called for outlays of 3.5 rubles for every ruble of increase in productive capacity. Might one speak of the degree of saving derived from this decision? This ratio is even worse at a number of other enterprises. For example, at the Ural Sewing Mill imeni K. Tsetkin it is 1:7.3 r.

For purposes of comparison, here are similar indicators for enterprises newly erected during the current five-year plan period. At the Petropavlovsk Sewing Mill 1.5 r of capital outlays were spent per ruble of the normative processing costs, the figure being 2.2 r for the Zyryanovsk mill, and 2.1 r at the mill in Pavlodar. That is, two-thirds to one-half as much as with technical re-equipping. Is this really normal?

In my opinion, the reason here lies in the fact that the problems associated with technical re-equipping have been insufficiently studied or economically substantiated at the planning stage.

The quality of any plan depends on the completeness of the circle of the problems which have been taken under study, the correctness of the evaluation of the production and economic situation which has come about, which evaluation allows a strategy to be developed which will achieve conclusive national economic results with minimal outlays and in the shortest time possible.

One of the important reasons for the reduced effectiveness of technical re-equipping is the the lag in the area of machine-building. It is no secret that in many cases, the new equipment which is installed in the enterprises turns out to be of the very same class regarding its features as that which was replaced. According to rough calculations, about 40 percent of the equipment produced for light industry and the food industry is subject to be taken out of production or is slated for renovation.

This all attests to the fact that machine builders have not yet finished reorganizing their efforts, considering the time factor. And this greatly hinders the capital reproduction process, which can turn in the future into unavoidable losses and additional outlays. For example the model R-192-4 roving frame, which is used in the textile industry, has a defective drawing mechanism which prevents the production of high-quality goods. And these very machines have been installed in a majority of textile enterprises.

And how, it is asked, is this practice to be appraised when certain enterprises are acquiring imported equipment when domestic models, which are in no wise inferior to their foreign counterparts, are available?

Regrettably, these facts are not uncommon. The Karaganda Meat-Packing Combine, for example, obtained a press used to strip chicken carcasses from the Protekon firm (Holland). The unit cost R110,000, whereas the similar model K-46/250 is produced domestically. It bears a R116,000-ruble price tag. And it is more operationally convenient and reliable.

An issue of no little importance is that of the quality of the equipment produced. Unfortunately, customers still have many complaints about machine builders. Here is one example. In 1983, the Rassvet Sewing Association in Ust-Kamenogorsk obtained eight sewing machines from the Legmash [Light Machinery] Plant, which is affiliated with the Promshveyemash [Industrial Sewing Machinery] Association in Rostov. The machines had unpolished operator's positions. As a result, after six months all the machines had to be sent in for major overhauls at a norm for repari-free operation of three years.

Machine builders frequently attempt to restrict their production to expensive large high production equipment which has a limited power range. The customers are forced to acquire the equipment, even though they can't work it to its full capacity. For example, the Dzhetysay Meat-Packing Combine purchased an automatic sausage-making machine with a productive capacity of 12 t per shift, whereas they needed a similar automatic unit, the productive capacity of which was two tons per shift. The upshot is that the machine stands idle 80 percent of the time.

It is high time the machine builders paid heed to the needs of their customers, took obsolete equipment out of production as quickly as possible and resolved to manufacture the sort of equipment which would incorporate the latest achievements of science and technology.

The highest requirement should be put on new equipment these days. It must not be allowed to take second place to the best of the world's wares, it must

be more powerful and productive, it must be relatively inexpensive (the growth rates for its productivity must outstrip those of its cost), it must not only eliminate heavy manual labor, but must determine the creative character of the labor done, and it must be, finally, ecological, i.e., must not have a negative effect on the environment.

Many machine-building plants produce equipment such as the above. There are, for example, the STB's [shuttle-less looms], which are as good as any foreign-made models, such as, for example those made by the Zultser Sewing Company. These STB's have made it possible to increase fabric production 2-2.5-fold, and to improve working conditions thanks to their considerably reduces noise levels. Regrettably, our mills and plants are equipped with similar equipment, which meets present-day requirements, as practice has shown, too slowly.

Increased production efficiency and a turning to intensive methods of economic operation and management comprise the key developmental problem of our country's national economy. In these times, stopgap measures are already inadequate. An integrated approach is needed to solve the problem of the technical equipping of production.

COPYRIGHT: "Narodnoye khozyaystvo Kazakhstana", 1985

12659

CSO: 1821/002

HOUSING CONSTRUCTION

NEW 2-YEAR PLANNING CYCLE ADOPTED FOR HOUSING CONSTRUCTION

Moscow EKONOMICHESKAYA GAZETA in Russian No 25, Jun 85 p 16

[Official Procedure for Continuous 2-Year Planning of Construction for Housing and Sociodomestic Projects]

[Text] By the Decree of the CPSU Central Committee of the USSR Council of Ministers "On Improving Planning, Organization and Management of Capital Construction" (Point 5), the USSR Gosplan, the USSR ministries and departments and the Union republic councils of ministers have been ordered to complete the transition in 1985 to continuous 2-year planning of construction for housing and sociodomestic projects. In this context the USSR Gosplan in a letter of 21 February 1985 has established the following procedure for continuous 2-year planning of construction for housing and sociodomestic projects.

The USSR ministries and departments and the Union republic councils of ministers, starting with the plan for 1968:

1. Are to have the enterprises, organizations and executive committees of the local soviets work out quotas for the completion of housing and sociodomestic projects for the planned year with a quarterly breakdown (including the quotas for the completion of housing and sociodomestic projects the construction of which is being carried out using funds provided in accord with subpoint "c" of Point 8 of the Decree of the USSR Council of Ministers of 10 July 1967, No 643) and for the following year (in accord with indicators set for this year in the five-year plan*) as well as their established need for capital investments (including for construction-installation work) to carry out construction and put into operation the designated housing and projects on the established dates.

* For 1987, in accord with the indicators set for this year in the draft of the basic directions for the economic and social development of the USSR for 1986-1990.

2. They are to submit to the USSR Gosplan, simultaneously with the draft plan, proposals for transferring under proportional participation the limits for capital investments and the construction-installation work for the construction of housing and sociodomic projects separately for the year being planned (including the limits for capital investments and construction-installation work destined for the construction of production-end projects and allocated above the amounts provided by subpoint "c" of Point 8 of the Decree of the USSR Council of Ministers of 10 July 1967, No 643 as well as the limits of capital investments and construction-installation work to be included in the estimates for the construction of production-end projects) and for the following year.

After the duly adopted decision on the limits of capital investments and construction-installation work to be turned over under proportional participation in the year being planned, these limits are accounted for in the plan and are issued by the USSR ministries and departments and by the Union republic councils of ministers to the appropriate enterprises, organizations and the executive committees of the local soviets which exercise the functions of the single client for the construction of housing and sociodomic projects.

Simultaneously these enterprises, organizations and executive committees of the local soviets are given data on the limits for capital investments and construction-installation work to be turned over under proportional participation in the following year. These data, as a rule, subsequently should not be altered.

The turning over under proportional participation of capital investments (including for construction-installation work) for construction of housing and sociodomic projects should be carried out together with the corresponding volumes of contract work.

3. Limits are to be set for design-research work for working out the design and estimate specifications for the construction of housing and sociodomic projects for 2 years with a breakdown by years.

For the year being planned the limits of design and research work should be set proceeding from the limits determined by the USSR Gosplan for this year for design and research work for the USSR ministries and departments and the Union republic councils of ministers.

For the following year, the limits of design and research work are set proceeding from the limits of design and research work approved by the USSR Gosplan for the USSR ministries and departments and for the Union republic councils of ministers in the five-year plan of design and research work and for the development of the network and physical plant of the design and research organizations.

4. They are to provide the prompt elaboration of plans for detailed layout, development plans as well as the elaboration of design and estimate specifications for the engineer preparation and engineer equipping of the

territory for housing microrayons for the entire amount of urban development work envisaged for the year being planned and for the subsequent one.

5. In drawing up a draft plan for the construction of housing and sociodomestic projects for the year being planned, agreement should be sought from the USSR Ministry of Construction of Heavy Industry Enterprises, the USSR Ministry of Industrial Construction, the USSR Ministry of Construction, the USSR Ministry of Rural Construction, the Ministry of Construction in the Far East and Transbaykal Regions, the Ministry of Construction of Petroleum and Gas Industry Enterprises, the Ministry of Transport Construction, the USSR Ministry of Power and Electrification, Glavmosstroy [Main Administration for Housing and Civil Construction in the City of Moscow] Under the Moscow Gorispolkom, Glavmosoblstroy [Main Administration for Construction in Moscow Oblast] Under the Moscow Oblispolkom and Glavleningradstroy [Main Administration for Housing, Civil and Industrial Construction Under the Leningrad Gorispolkom] for proposals related to the completion of housing, hospitals, children's preschool institutions, general education schools and vocational-technical schools in the following year.

Proposals for the completion of housing the construction of which is being carried out by state capital investments and funds from housing construction cooperatives are to be approved separately for each financing source and for the completion of hospitals, children's preschool institutions, general education schools and vocational-technical schools according to projects which are being built by state capital investments.

The proposals on the completion of housing and sociodomestic projects in the year being planned should make provision for the establishing in the following year (within the set limits for capital investments and construction-installation work for these purposes) a normed backlog necessary to ensure the completion of the general educational and vocational-technical schools by the start of the academic year, and for housing and children's preschool institutions in the first 6 months, in amounts which comprise, as a rule, at least 40 percent of the annual plan quota.

The designated proposals are forwarded to the USSR Gosplan simultaneously with the draft plan of contracting work.

6. They ensure the fulfillment by the enterprises, organizations and executive committees of the local soviets exercising the functions of the single contractor for the construction of housing and sociodomestic projects, on a basis of the preliminary indicators issued to them for the following year, the carrying out in the year being planned of the required design and research work, research on promptly providing the construction sites with water, sewage, heating and gas networks and equipment.

10272
CSO: 1821/168

HOUSING CONSTRUCTION

EFFORTS UNDER WAY TO LOWER COST OF INDIVIDUAL HOUSING

Minsk SELSKAYA GAZETA in Russian 28 Mar 85 p 2

[Article by Deputy Chairman of the Belorussian SSR State Committee for Construction V. Voronyuk "How Much Does It Cost to Build a House?" under the rubric "They answer 'Selskaya Gazeta'"]

[Text] The Belorussian SSR (BSSR) State Committee for Construction has considered correspondence with this same title which was published in "Selskaya Gazeta" on January 30, 1985.

Analysis of the planning estimate documentation for erecting houses by housing construction cooperatives which were set up in the Volkovysskiy Rayon have showed that the costs of construction were actually overstated. Thus, while assigning the construction of one-apartment buildings at the "Shilovichi" and "Gnezdo" state farms to the ZhSK [Housing Construction Cooperative] of the Grodnenskiy Affiliate of the "Belkolkhozproekt" Institute, there were groundless changes in the costs anticipated in the standard projects for housing and housekeeping structures for the monolithic foundations made of precast ferroconcrete. The estimates were completed according to catalogues for individual valuations of Belmezhkolkhozstroy [BSSR Inter-Kolkhoz Construction Trust], although construction of houses was turned over to the "Grodnosel'-stroy [Grodno Rural Construction]" Directorate of the BSSR Ministry of Rural Construction. This led to an increase in the estimated cost of the farmstead by 2,000 rubles.

The Directorate for Capital Construction of the Volkovysskiy Rayon Executive Committee, which was tasked with the ordering function for planning and construction of buildings by housing construction cooperatives in rural areas did not thoroughly control the work of the planners and accepted low quality documentation and did not correct the shortcomings contained in them.

Similar violations were permitted in other rayons of the republic.

Considering this, Belmezhkolkhozstroy, the Grodnenskiy Oblast Executive Committee and other interested organizations were tasked to provide in a very short time a correction to the project estimate documentation, and to consider matters of updating individual and cooperative construction in rural areas.

Presently, with consideration of work done by the BSSR State Committee for Construction [Gosstroy] in shortening the nomenclature of projects there was recommended for use in the republic about fifty more economical standard housing designs of the farmstead type, the cost of which will vary from 11,300 to 22,000 rubles, depending on the floor space and architectural planning and design decisions. In these projects there was maximum consideration given to the demands of the rural residents for increasing the comfort of housing, and the demographic structure of the population.

In the farmstead housing there is provided well designed engineering, central water supply, and local systems for heating and sewage.

BSSR Gosstroy has developed measures to decrease the costs of rural housing during the period up to 1990, providing for the elimination from housing construction practice of non-economical and obsolete projects, and for the updating of the floor space, architectural planning and design considerations, and the use of new effective materials and designs, methods of housing erection, and economical systems for engineering equipment.

Together with the further updating of project decisions for housing buildings there was developed a whole series of projects for outbuildings from various design systems, and which will allow us to carry out limited, moderate, or increased subsidiary management. The estimated cost of such structures is from 2,000 to 5,00 rubles. Among the projects are included units for holding cattle, protection of equipment, feed preparation facilities, incubators, hothouses, and others.

The republic Gosstroy and State Planning Commission (Gosplan) together with interested ministries and authorities have prepared normatives for specific capital expenditures for construction during the 12th Five Year Plan of housing at kolkhozes and state farms of the Belorussian SSR, in which the costs of one square meter of floor space for a house, considering the erection of housekeeping structures, has decreased (in constant prices) by about 48 rubles, based on the present Five Year Plan.

Realization of the measures stated will allow during the 12th Five Year Plan for a decrease in the cost of rural farmsteads by more than ten percent.

9016

CSO: 1821/162

HOUSING CONSTRUCTION

MINISTRIES TASKED WITH COMPLETION, REPAIR OF HOUSING PROJECTS

Moscow EKONOMICHESKAYA GAZETA in Russian No 16, Apr 85 p 7

[Article: "At the CPSU Central Committee and the USSR Council of Ministers"]

[Text] On March 7, 1985 the CPSU Central Committee and the USSR Council of Ministers adopted a resolution "about measures for the growth of repair and construction services for housing, buildings for gardening associations, garages, and other structures paid for by the citizen in 1986-1990 and in the period until 2000." It is a component part of a complex program of growth in communal goods production and in the services area for 1986-2000.

In the resolution it is mentioned that as a result of an increase in the Soviet peoples' standard of living there has been a significant increase in the population's demand for services in repair, construction, decorating, and furnishing housing (apartments and houses), in construction of buildings for gardening associations, garages and parking spaces for privately owned vehicles, and other structures. Along with this, the demands for such services are not being completely satisfied.

The central committees of the Communist parties of union republics, krays, oblasts, cities, and neighborhood Communist parties; the Council of Ministers of union and autonomous republics; executive committees of kray, oblast, city, and neighborhood Councils of People's Deputies, ministries and authorities, enterprises, establishments and organizations are directed to develop and implement measures to improve the organization and further development of work in repair, construction, improved finishing, and equipping of housing (apartments and houses) and the construction of structures for gardening associations, garages and private vehicle lots, and other structures as the customers demand.

During 1986-1990 the Councils of Ministers of union republics are tasked to complete services for repair of housing (apartments and houses), construction of individual houses, cooperative and individual garages (blocks, single- and two-story), and parking areas for private vehicles. These services will be paid for by the customers.

Ministries and authorities of the USSR are assigned to this period amounts of services for repair which the citizens pay for of housing (apartments and houses) of the authorities' housing stock.

The USSR State Planning Committee (Gosplan) and the USSR Committee for Material and Technical Supply (Gossnab) are to provide in city plans for assignment to union republics' Councils of Ministers, ministries and USSR authorities of the material and technical resources needed to complete the tasks assigned in this resolution.

The USSR Ministry of the Construction Materials Industry, the USSR Ministry of Timber, Cellulose-Paper, and Wood Processing Industry, the Ministry of the Chemical Industry and other USSR ministries and authorities who manufacture material and articles which are used in repair, construction, decoration, and furnishing apartments (houses) are required to establish measures to broaden the selection and further improve the quality and outward appearance of these materials and articles, and to guarantee their manufacture in the required amounts.

As a first priority during 1986, Gossnab USSR, USSR ministries and authorities, and union republic Councils of Ministers are tasked to provide for the availability for the selection and delivery of material and high quality articles for repair and construction, and for improving decoration and furnishings of apartments (houses). The improvements are to be billed to the customers.

Territorial organs of USSR Gossnab must provide a full selection of the required materials and articles and also control their delivery by producer enterprises for organizations which are doing housing repair and construction, home improvements, and furnishing of apartments (houses).

During 1985, union republic Councils of Ministers, USSR ministries and authorities are required to develop and confirm a list of repair and construction services furnished by customer order and paid for by them.

During 1986-1990, union republic Councils of Ministers are tasked to develop and implement, in addition to established tasking, construction on a contract basis to be paid for by the customers of individual houses, structures for gardening associations, and multi-story and underground cooperative garages.

Gosplan USSR is tasked to provide in the annual plans for union republic Councils of Ministers for limits of capital expenditures, construction and installation work, and volumes for contractor work for these purposes.

In their development of project plans, the union republic Councils of Ministers must provide for agreement with the USSR construction ministries and also with USSR ministries and authorities which have construction, installation, and repair construction organizations for volumes of the required services and to furnish Gosplan USSR with the corresponding proposals together with the planned projects.

Union and autonomous republic Councils of Ministers and executive committees of local Councils of People's Deputies are given the task to seek out the necessary resources for construction of multi-story and underground cooperative garages (including local construction materials) in supplement to the materials which are allocated from centralized funds.

It is recognized as expedient to complete work in repair and construction of housing; construction of structures for gardening associations, garages and

POV parking places; and other structures with work billed to the customer. As a rule this would be done by specialized repair and construction organizations which have the necessary production base for this work.

Union republic Councils of Ministers and USSR ministries and authorities must provide for the establishment where it is expedient of the required organizations to complete the anticipated provision of repair and construction services, and also for repair and construction units which will operate on a contract basis.

Gosstroy USSR during the next six months is to work with union republic Councils of Ministers to develop and confirm, in agreement with Gosplan USSR and Gossnab USSR, norms for the equipping of specialized repair and construction organizations with construction machines, mechanisms, equipment, tools and vehicles and also inventories of buildings of communal and industrial designation to provide normal production and sanitation services to the workers of these organizations. The customers will pay for services provided.

Union republic councils of ministers and USSR ministries and authorities are tasked to provide in city planning for setting aside the required construction equipment, tools, vehicles, and standard buildings in accordance with established norms for use by specialized repair and construction organizations.

Union republic Councils of Ministers and USSR ministries and authorities must provide an increase in the volume of work done to improve decoration and furnishings of apartments (houses) to be paid for by the customers and enlist for them the means, keeping in mind that by 1990 they are to provide a volume of this work which will be up to 20-25 percent of the overall amount of housing which is completed using state capital funding.

Gosstroy USSR and the Councils of Ministers of the union republics are tasked to develop during 1985 and 1986 standard projects for construction which the customers will pay for of garages and parking for POVs.

Gosstroy USSR in cooperation with the Councils of Ministers of the union republics is tasked to develop standard terms for completing work for housing repair, and also norms for the duration of building projects which the population will pay for, as the resolution decrees. These documents must be confirmed by July 1, 1986.

The Councils of Ministers of the union republics, and USSR authorities and ministries are required to provide for further development for repair and construction services for housing and other structures to be paid for by the customers, keeping in mind that they are to increase by four times by the year 2000, compared to 1985, the volume of services for housing (apartment and house) repair, and for individual housing construction by three and one-half times. They are to complete construction of structures for gardening cooperatives in a volume which is required for construction of garden areas. During these years they are to complete cooperative garages and parking places for six million POVs.

Gosplan USSR is tasked to provide in project plans for economic and social development of the USSR in this time period as are set forth by the union republic Councils of Ministers and by USSR ministries and authorities.

Within the next six months, the USSR Ministry of Finance and the USSR State Committee for Prices with the cooperation of USSR ministries and authorities are to develop and finalize, with the approval of Gosplan and Gosstroy USSR, the situation for billing customers for repair and construction services. The payment for material and equipment which is used for completing these services will be at retail prices.

It is established that:

housing (apartment and house) repair services and the construction of individual housing units, and structures for gardening cooperatives, garages, and POV parking places and other structures which the customers will pay for and which are completed by construction and installation and repair and construction organization, independent of their parent organizations, are to be planned for and considered in the volume of completion of communal services to the population without costs for materials and equipment;

when the valuation of the work of repair and construction organizations which are providing the housing repair services and building individual houses and structures for gardening cooperatives and garages and POV parking places is 75 percent or more of the overall volume of construction and installation work which the organizations perform, then work and socialist competition totals are to be supplied for the results of completing the amount of realization of communal services.

Union republic Councils of Ministers, the USSR State Committees for Prices and Construction, and the USSR Ministry of Finance are tasked to examine the matter of validation the present prices and developing as necessary new prices for repair and construction services which the population pays for, keeping in mind that they must provide in these prices for any decrease in costs and providing for the profitability of the work which is done.

Gosstroy USSR together with the USSR Ministry for the Timber, Cellulose, Paper and Wood Processing Industries is tasked to organize during 1985 and 1986 the experimental construction of living quarters with flexible planning of apartments based on the use of prefabricated cabinet partitions, taking into account their attractiveness to the customers.

The Ministry of Construction, Road Building, and Communal Machine Building is responsible for producing and satisfying the demands of the organizations which are completing repair and construction work which the customers pay for enough electrical and pneumatic hand tools and the means for complex mechanical work.

Gossnab USSR is tasked to provide in annual plans for the material and technical supplies which are set aside for the union republic Councils of Ministers, and the USSR ministries and authorities of the needed amount of required means for complex mechanization and tools of the proper type for

repair, construction, furnishings improvement, and equipping of housing (apartments and houses), and construction of structures for gardening cooperatives, garages, and other structures which the customers will pay for.

The Minister of Construction, Road Building, and Communal Machine Building is tasked to develop and implement during 1985 and 1986 the series production of engineering equipment for equipping, on a first priority basis, of individual houses which are built to order for the customer.

Enterprises and organizations subordinate to construction ministries and authorities are authorized to prepare and set up the concrete, ferroconcrete, carpentry, metal, and other articles, heaters, dry mixtures, compounds, and solutions needed by the repair and construction organizations which are completing the services provided for in this decree for the services to the population.

With the intent of providing assistance to the population in repair and construction of housing, the union republics Councils of Ministers, and the executive committees of local Councils of People's Deputies are tasked to consider and settle matters of organization at existing points and rental studios of the means for long term rental to the populace of small power and hand tools, which are to be used for repair and construction of housing, and also provide for consultation with specialists in the conduct of the work and the creating at repair and construction organization of points at which these services are to be furnished.

9016

CSO: 1821/162

CONSTRUCTION MACHINERY AND EQUIPMENT

UDC 666.94:658/564

MODERNIZATION OF CEMENT PRODUCTION TECHNOLOGY VIEWED

Leningrad TSEMENT in Russian No 3, Mar 85 p 9

[Article by V. V. Smirnov, manager, and Ya. Ye. Gelfand, laboratory manager, of the Main Section on Automation of the Cement Industry of VNPO Soyuzavtomatstom: "Raise the Level of Automation of Cement Production"]

[Text] In December 1984 the Cement-Industry Section of the NTS [Scientific and Technical Society] of USSR Minstroyaterialov [Ministry of Construction Materials Industry] discussed the status of and prospects for automation and also its effect on the industry's labor expenditures. Its resolution noted that VNPO Soyuzavtomatstom [All-Union Science and Production Association for Automation of the Building-Materials Industry], jointly with the industry's design institutes, Promavtomatika NPO [Science and Production Association], Minpribor [Ministry of Instrument Making, Automation Equipment and Control Systems] and cement enterprises, has created and introduced automation systems for monitoring and controlling cement-production industrial lines that are under construction and certain existing ones.

Main attention was paid to the creation of ASUTP's [automated systems for control of industrial processes] for dry-method industrial lines, primarily for the preparation of raw-materials mixtures of the prescribed composition. All the newly built industrial lines were designed as automated complexes, based upon methods of systems design.

ASUTP's for the more energy-intensive production sections are being developed for existing plants. At 26 cement plants, automated systems for controlling industrial production have been introduced, 3 of them based upon microprocessor equipment.

The 11th Five-Year Plan calls for the manufacture of more than 40 and the introduction of more than 20 local systems for monitoring and regulating. Specialized instruments of 20 specific varieties are being produced at VNPO Soyuzavtomatstom experimental plants.

It was noted at the same time that the mix of these instruments and the status of the instruments pool at cement plants do not meet the industry's requirements, the number of local control and regulating systems is inadequate, not enough attention is being paid to automating auxiliary equipment, and existing plants are not adequately supplied with batching equipment, remotely controlled dampers and width-reducing devices.

The means of automation being introduced are having little effect on reducing labor expenditure. The managers of some plants are not paying enough attention to the introduction of automation, observance of the rules for its technical operation, and the training of personnel.

The section discussed prospects for developing and using in the cement industry systems-design methods for automated industrial complexes (ATK's).

Computer-based methods of analysis and simulation, which are at the heart of systems design, should be brought up to a formalized man-machine procedure and included in the SAPR's [automated design systems] which are being created in design institutes at the level of automated work stations (ARM's) for the designer.

Systems design, which is directly aimed at reducing labor expenditure in the industry, should have a special place. This is, primarily, a systems approach to the automation and comprehensive mechanization of auxiliary processes and integrated solution of the tasks of controlling mechanisms, with a corresponding restructuring of the organizational structure for controlling industrial lines, including the purposeful training of specialists and appropriate technical and informational support for the posts that control the technical processes.

The systems approach to creating ATK's requires the precise interaction of specialists in technical cybernetics, technology, equipment and production organization.

VNPO Soyuzavtomatstom, jointly with the industry's design institutes and the Institute of Control Problems of AN SSSR [USSR Academy of Sciences], has prepared a design for a special-purpose integrated program, "Develop and Introduce Methods for Computer-Aided Systems Design and, Based Thereon, Create ATK's for Cement Production," which is called upon to coordinate the efforts of specialists in the solution of this problem.

The section approved the development and use of methods for systems design of ATK's that were carried out by VNPO Soyuzavtomatstom, as well as the initial work of creating ASUTP's based on microprocessor equipment, and the turnkey introduction of control and regulating systems (SKR's) based on general agreements, and it recommended the following.

1. Promote the creation and wide introduction of specialized instruments and local control and regulating systems, based upon analog regulators and microcomputers, microprocessor systems with developed functions for monitoring and reporting technical and economic indicators, and distributed microprocessor systems.
2. Concentrate specialists' efforts on automating industrial processes for the tasks of stabilizing and increasing cement quality, especially in connection with the production of multiple-component elements and increased demands for monitoring quality.
3. Analyze regularly the level and status of automation of existing plants, with presentation of results of the analysis to cement-industry main administrations.

4. Conduct seminars continually to exchange experience and to disseminate knowledge about cement-production automation.
5. Develop, with the participation of the Main Administration for the Cement Industry, a plan for training and raising the skill levels of specialists who operate ASUTP's and ATK's during the 12th Five-Year Plan period, taking into account the Krivoy Rog plant's experience in training personnel for ATK's.
6. Minstroyaterialov's GlavNIIproyekt [Main Administration for Scientific-Research and Design Organizations]: Provide for, during the design of new and the rebuilding of existing enterprises, the integrated solution of problems of the technology, automation, mechanization and organization of production, based upon systems-design methods, and examine the specific-purpose integrated program for this problem.
7. Main Administration for the Cement Industry and Union-republic ministries: Increase the responsibility of cement enterprises and associations for fulfilling clients' commitments at all stages of the development, introduction and operation of automation systems and means, and pay special attention to the modern training of operating personnel.
8. NII'tsement [State All-Union Scientific-Research Institute for the Cement Industry], jointly with VNPO Soyuzavtomatstrom and industrial-design institutes: Examine and refine the specific-purpose program for the mechanization of auxiliary labor-intensive operations, taking account of the potential for automating them, and also, with the participation of VNIIESM [All-Union Scientific-Research Institute for Scientific and Technical Information and the Economics of the Building-Materials Industry], examine VNPO Soyuzavtomatstrom's proposals for evaluating the effectiveness of creating ATK's, and prepare the appropriate industrywide standards and methodics papers.
9. Cement plants: Improve industrial discipline and the quality of operation of equipment and automation means, and activate all the previously designed automation instruments and systems.

It was decided to hear in 1985 the reports of VNPO Soyuzavtomatstrom and of Minstroydormash and Minpribor organizations that are dedicated to the production of specialized instruments for the cement industry and to weight-measuring and batching equipment. It was planned also to hear the reports of representatives of one of the advanced and one of the lagging cement enterprises on the status of and experience in operating automation equipment.

COPYRIGHT: Stroyizdat, zhurnal "Tsement", 1985

11409

CSO: 1821/012

CONSTRUCTION METHODS AND MATERIALS

BRICK SHORTAGE LINKED TO RAW MATERIAL, TRANSPORT PROBLEMS

Tashkent EKONOMIKA I ZHIZN in Russian No 7, Jul 85 pp 32-33

[Article by V. Badayev, party chief of the Integrated Mining-Geology Expedition of UzSSR Minstroy Materialov [Ministry of Construction Materials Industry]: "According to the Official Data, but in Actuality...."]

[Text] There are not enough bricks at the republic's construction projects. What is the reason?

Facilities being built with brick are frequently being turned over with great delays because of a brick shortage. In the last 4 years alone the shortfall was almost a third of a billion units, and if it is considered that a great portion of brick-plant output goes to rejects, then this indicator is doubled. At the same time, according to the official data, it turns out that Ministry of Construction Materials Industry enterprises have been provided with a mineral raw-materials base for up to the middle of the next century: there are reserves for 20 years of excavation at the fields being operated, plus enough deposits for another 50 years of continuous operation of the plants have been explored.

Unfortunately, the objective picture is completely different. Twenty-four wall-materials plants and brick-plant administrations (KZU's), which seldom combine as many as 3-4 plants, are operating in Uzbekistan. Only 14 of the fields studied are being developed.

Almost half of the Uzbekistan enterprises (Tashkent KZU-1 and KZU-5, Keles KZU-7, plant No 4 of Andizhan KZU-13, Termez KZU-16, Khodzheyli KZU-19, Beruni KZU-22 and the Urgench Wall-Materials Plant) do not have an explored raw-materials base. Irregular raw material of unknown quality is being used for brick production. The Termez KZU-16, for example, imports loesslike rock taken from foundation pits of urban facilities under construction. It is precisely this which is the basic cause of the rejected output--it is practically impossible to prepare a mix suitable for manufacturing decent-quality brick out of bulk material with unknown processing properties. The raw material for Yalangach KZU-2, Almalyk KZU-6, Bukhara KZU-12, Andizhan KZU-13, the Ilichev Brick Plant in Andizhan Oblast, Samarkand KZU-17 and the Kokand and Karshi wall-materials plants is low in quality and requires that up to 20 percent plasticizing additives--kaolins and clays--be added.

According to the books of Uzbek SSR Ministry of Geology and Uzbekistan's Ministry of Construction Materials Industry, for the republic as a whole

55 million cubic meters of loesslike rock have not been used up yet at the fields now being operated. With an annual requirement of about 3 million cubic meters, these reserves are scarcely enough for two decades. These are average indicators. A survey of individually selected brick plants excites concern. The brick department of the Angren Ceramics Combine has been provided enough for 13 years of operation, the Kokand Wall-Materials Plant enough for 10 years, Chirchik KZU-9 for 8 years, Samarkand KZU-17 for 7 years, Almalyk KZU-6 for 5 years, Yangiyul KZU-8 for 3 years, and Kuvasay KZU-14 for 2 years.

The existence of 39 reserve explored fields does not change the state of affairs. Despite the severe shortage, and for some plants there is even an absence of brick raw materials, for many years not one of the fields has been brought into development. The explored areas are occupied by cotton fields and orchards or are slated for construction development.

Four hundred sixty thousand rubles have been spent to explore the 14 brick raw-materials fields that have been developed, more than a million for the 39 reserve fields. In other words, for each ruble that is working, there are two and a half "frozen," some of which have been lost irrevocably. Matters are going somewhat better with cement raw-materials clay components, but they are not economically justified: 4 deposits are being operated, and 8 are in reserve. Total expenditures on geological exploration are, respectively, 476,000 and 317,000 rubles. Approximately the same ratio applies also to fields of other types of construction materials--facing stone, gypsum, sand and coarse gravel.

The predominant portion of the building-materials deposits have been explored or are being explored by Uzbek SSR Ministry of Geology expeditions. These have at their disposal a large collective of highly qualified personnel, the newest highly productive equipment, laboratories for making all the required types of analyses, and adequate motor-vehicle transport. But there is no effective yield. Studies have been conducted for more than a quarter of a century, but many brick plants to this day have never had an explored raw-materials base. More than 70 percent of the state budget money spent on geological exploration has been frozen for decades.

Here are some examples. The Nukus-I field has been carried as reserve for 34 years, the Bukhara for 26 years, the Irvardan 24, the Chimbay 22, the Namuna, Oktyabrskoye, Denay, Denay-2 and Dangara fields 19 years each, and the Namangan 20 years.

Building materials are raw materials without prestige. Probably that is why the exploration of this type of raw material, which is as necessary as air for construction needs, is categorized as an irritating but unavoidable necessity--a series of prospecting holes is dug up, samples are taken and analyzed, a report is written, and, the main thing--the financial plan has been carried out--and it's over and done with. Whether the field is developed after exploration or not, this fact in no way disturbs the management of Uzbek SSR Ministry of Geology--it does not answer either for fulfillment of the plan by brick plants or for the timely introduction of routine construction facilities into operation.

It is paradoxical, but a fact, that such a state of affairs is occasioned by the existing procedure for converting an explored field to development.

The geological exploration is performed through state budget funds. After completion of a study and confirmation of mineral raw-materials reserves by the USSR State Commission for Reserves or the Uzbek SSR Ministry of Geology's Territorial Commission on Reserves, the field is transferred on paper to the books of the Uzbekistan Ministry of Construction Materials Industry. In so doing, the money spent on exploration is made up for only if the deposit is developed and output is produced. If the field is not developed, then the money spent studying it will be in a frozen state until mining starts. Rejection of development means an irrevocable loss of state budget money. An example of this is the Onkurgan and Chuvalak brick raw-materials fields. Not one cubic meter of loesslike rock has been mined, the estimated reserves have been written off from the books of UzSSR Minstroymaterialov, and the unjustified loss was 39,000 rubles.

All this could have been avoided if the Uzbek SSR Ministry of Geology had coordinated its operations plans with the overall plans for developing the economy. But this is not being done--the geologists explore, transfer the deposit of useful minerals on paper, and then the land section is sowed to agricultural crops or is put under development for construction. Naturally, authorization for the development of such a field will not be forthcoming.

And indeed, the land on which and the time at which the cotton fields, fruit orchards, vineyards and buildings would appear was known previously. If the UzSSR Ministry of Geology had considered all these factors prior to starting work, then only sections which can be developed would have been explored, and the state would not have had to bear unjustified losses.

Life itself insistently requires that this obsolete procedure for transferring explored fields into operation be changed. Above all, strong working ties should be arranged between the exploring organizations and the development enterprises. Geologists must know accurately the needs and demands of the consumers and, only jointly with them, solve all problems connected with the future fate of the field. In choosing a section of loesslike rock for exploration, simultaneously with the factors indicated above other factors of no less importance also should be considered--economic, transport and the technology for processing the raw materials and the finished products. If all these conditions are not met and mineral raw-materials deposits are frozen, then the geological exploration organization should reimburse the state budget for the money expended on studying it. In such cases, the ground will have been knocked out from under the feet of those who are accustomed to unmonitored waste of state budget funds, without giving, in exchange, an equivalent amount of product. Naturally, not one geological exploration expedition will start to work itself into losses and each ruble expended will bring a full-valued return.

COPYRIGHT: "Ekonomika i zhizn", 1985

11409

CSO: 1821/015

CONSTRUCTION METHODS AND MATERIALS

RETAIL OUTLETS FOR CONSTRUCTION MATERIALS

Yerevan KOMMUNIST in Russian 27 Mar 85 p 2

[Article: "Commodities Outside the Market"]

[Text] Twice, in 1980 and 1983, the republic council of ministers made the decision to improve the organization of sales to the populace of timber and construction materials. The Ministry of the Construction Materials Industry, Aykoop [exact expansion unknown] and the republic Ministry of Trade were given responsibility for implementation.

The last session of the ArSSR Committee of People's Control considered the question of work which has been done in this direction. It was noted that there are serious deficiencies--the population's needs for timber and construction materials continued to remain unsatisfied and the stores lacked many commodities for which there is a demand from consumers.

This is explained by the fact that a complete selection of allocated funds is not provided. For example, of the 53 basic descriptions of timber and construction materials, the Mintorg [Ministry of Trade] and Aykoop did not assimilate funds for 13 and 15 descriptions respectively in 1983, and for 16 and 9 descriptions respectively in 1984. This in turn affects the retail network. For example, 47 of the 109 descriptions of materials covered by the mandatory assortment list were absent in sales at the Artiiskaya Trade Base, 42 were lacking at the Ararat Base, and 53 of 110 descriptions were lacking at the Dilizhan Base.

The principal reason for the unsatisfactory state of affairs is the nonfulfillment of terms for commodity delivery by some suppliers. For a number of years now the Ministry of the Construction Materials Industry has taken no specific steps to carry out the republic government's assignment to organize the centralized delivery of local construction materials to trade organizations according to their orders. This was the reason that 1984 funds were assimilated by 75 percent in the republic. The quality of commodities supplied to trade also requires improvement. For example, the Ararat Cement-Roofing Slate Combine has been supplying inferior asbestos slate from year to year.

With the existing situation, more persistence should have been shown in the matter of increasing production and seeking additional construction material resources, a sufficient amount should have been purchased from decentralized sources, and the production and supply of ready-mix concrete and of reinforced concrete and woodworking articles should have been obtained from enterprises. The Aykoop, for example, could take advantage of enterprises of its own business for producing commodities needed by the market.

Unfortunately this is not being done. Moreover, the heads of a number of cooperative organizations are not carrying out the instructions of the republic's directive bodies for strengthening supervision over the use of market funds for their intended purpose. Taking advantage of the lack of supervision, they are selling construction materials to outside organizations and using their own businesses for repair needs above established norms. The Idzhevanskiy, Spitakskiy, Oktembryanskiy, Stepanavanskiy and Aniyskiy raypotrebobshchestva [rayon consumer associations] allowed above-norm expenditures of construction materials for their own needs and their illegal sale to outside organizations in large amounts. Heads of the Oktembryanskiy, Sevanskiy and Araratsskiy raypotrebobshchestva are violating the established norms for supplying construction materials to one customer.

After discussing results of an inspection, the Committee of People's Control reprimanded Deputy Minister of the Construction Materials Industry G. Shirinyan and took into consideration his statement as well as statements by Deputy Minister of Trade T. Tigranyan and Deputy Chairman of the Aykoop Board A. Shaumyan that they would take additional steps for full compliance with demands of the government decree and that those guilty of committing violations would be held liable.

6904

CSO: 1821/011

CONSTRUCTION METHODS AND MATERIALS

INNOVATIVE CONSTRUCTION METHODS APPLIED IN UZBEKISTAN

Trashkent PRAVDA VOSTOKA in Russian 8 Aug 85 p 2

[Article by B. Bezrukov under the rubric "Following the Course of Scientific-Technical Progress": "'Travelling' Shops"]

[Text] Up to 3 billion rubles are spent in capital construction in the country on temporary buildings and structures - "auxiliaries," that are used during the erection of the basic projects. Then, because they are not wanted, these structures are demolished, and another 1.5 billion rubles in construction materials is lost. There are especially large losses in the construction of temporary bases for engineering services and construction equipment repair.

Even back in the time of the development of the Hungry Steppe, land improvement specialists in Uzbekistan were convinced of the necessity of ensuring the mobility of the contract subdivisions. The prefabricatability of construction of these bases, the cheapness and durability of the structural elements, and transportability became economically necessary. Workers in the virgin lands decided that since these bases serve mobile mechanized columns [mekhkolonny], then they themselves should move from place to place.

By order of Glavsredazirsovahozstroy, specialists of the Special Design Buro [SKB] of the All-Union Scientific Research Institute [VNII] of the USSR Ministry of Installation and Special Construction Work [Minmontazhspetsstroy] developed, and the Gulistan Mechanical Repair Factory manufactured, the first mobile equipment building of the prefabricated type constructed of panel elements. It can accommodate a workshop for the repair and maintenance of construction machinery and motor transport, a workshop for the manufacture of metalwork and fittings, a shop for the production of ferroconcrete structural units, wooden forms, and carpentry products, and finally, storage accommodations and parking space for construction machinery and cars. In short, it can accommodate whatever is required.

Note that not only this type of building as a whole, but also its individual components, are the latest in domestic and foreign construction practice - light-weight pre-stressed panels, where a thin, pre-shaped sheet alone carries out supporting and enclosing functions.

All the components are standardized, even though a building may be constructed of them in various forms and in various sizes. Only nuts and bolts are required

for assembly. And the solidity has already been tested by the Gazli earthquakes - the structures came out of them without even the slightest deformation.

Special equipment is not required in the manufacture of sets of structural elements for the reusable, prefabricated buildings. That is why their production was organized in a short period of time on the proving-grounds of the Gulistan and Karshi Repair Plants. And currently there are more than 20 of such buildings "on wheels." The economic payoff - more than 3 million rubles.

This innovation has pleased not just the republic's land improvement specialists. Requests for manufacture or for help in manufacturing similar facilities are being directed by the dozens to the main administration. There are also potential customers outside of Uzbekistan: the Novodzhambul'skiy Phosphorous Plant, the Moscow-Ryazan branch of the Moscow Railroad, the Mining Institute of the Siberian Department of the USSR Academy of Sciences, the Main Administration for export of transportation equipment, roadbuilding and agricultural machinery of the USSR Ministry of Foreign Trade [Minvneshtorg] and Stavropol and Ryazan area kolkhozes and sovkhoses.

But here is the problem: two small enterprises can not satisfy the growing demand. The solution can be seen in cooperation among a number of ministries and departments. On the basis of, and because of, the reconstruction of existing factories, a specialized association for the production of prefab equipment buildings could be created as early as the next 5-Year Plan. You won't have to look for those who are interested.

This is why the production enterprises should assemble their own articles themselves. This is now being done by the operators. Transferral of the assembly functions to the production factories on an economic contract basis will increase their responsibility for the quality and timely completion of projects.

The introduction of mobile equipment bases accommodated in prefab buildings into the national economy, responds to the concerns for the intensification of production on the basis of scientific-technical progress. And this progress must be accelerated.

12911/12790
CSO: 1821/181

BRIEFS

DRY-METHOD CEMENT PRODUCTION--Krivoy Rog, Dnepropetrovsk Oblast--At the Krivoy Rog Cement Kiln Combine a basically new rotating kiln--the SMTs-20, has achieved its designed productivity of 125 tons of clinker per hour by the progressive dry method. The cement workers had to bring the output of the furnace up to the prescribed goal about 18 months after startup of the test model. "This high pace of mastery of a furnace intended for obtaining the basic material used in making cement of various grades was achieved for the first time in our country," said combine director N. Ryabchenko. "The furnace's utilization factor is 15-20 percent above that of similar units operating at the country's cement enterprises. Tests have indicated that, with a regular supply of good quality raw material, the combine is ready to produce more than 3,000 tons of clinker per day." The state commission that accepted the new equipment, which was designed and fabricated by Volgotsem-mash [Volga Cement-Machinery Production Association] of Minstroydormash [Ministry of Construction, Road and Municipal Machine Building] noted that the line had reached the designed indicators for productivity and fuel per unit of output. Such lines have proved themselves well for use at other enterprises when they are converted to the energy-saving technology. (TASS) [Text] [Moscow STROITELNAYA GAZETA in Russian 10 Mar 85 p 2] 11409

POROUS GYPSUM REPLACES BRICK--If porous gypsum panels are used in place of brick in constructing the inner walls of buildings, the builders' labor productivity increases sevenfold. This is just one of the many advantages of the new material developed by specialists of the Latvian Scientific Research Institute of Construction. The chemical reaction of oxalic acid with the dolomite contained in the gypsum material is the basis of the technology for manufacturing porous gypsum. The resulting compound is poured into the forms of future panels, which are reinforced with cut glass fiber for strength. Twenty-five gypsum panels up to 3.5 m high leave the Institute's experimental process line daily. It takes two workers only five minutes to install each of them in a building under construction. The Latvian scientists' innovation is being successfully introduced at projects of the republic association of interkolkhoz construction organizations. [By M. Tamarkin] [Text] [Riga SOVETSKAYA LATVIYA in Russian 17 Apr 85 p 2] 6904

CONCRETE PLATES AS FOUNDATIONS--Ukhta, Komi ASSR, 2 May--An unusual three-story building arose on Yubileynaya Street. The fact is that it stands on an underlayment of concrete plates. Tens of warehouses, garages, shops and other projects have been built in the Komi ASSR as well as on Mangyshlak using this method. The plate foundations developed in Ukhta provide a relatively small soil load and are quickly arranged from prefabricated components. This reduces the earthwork to a minimum and it makes the construction of buildings cheaper and easier. [By PRAVDA stringer A. Kurkov] [Text] [Moscow PRAVDA in Russian 3 May 85 p 1] 6904

END